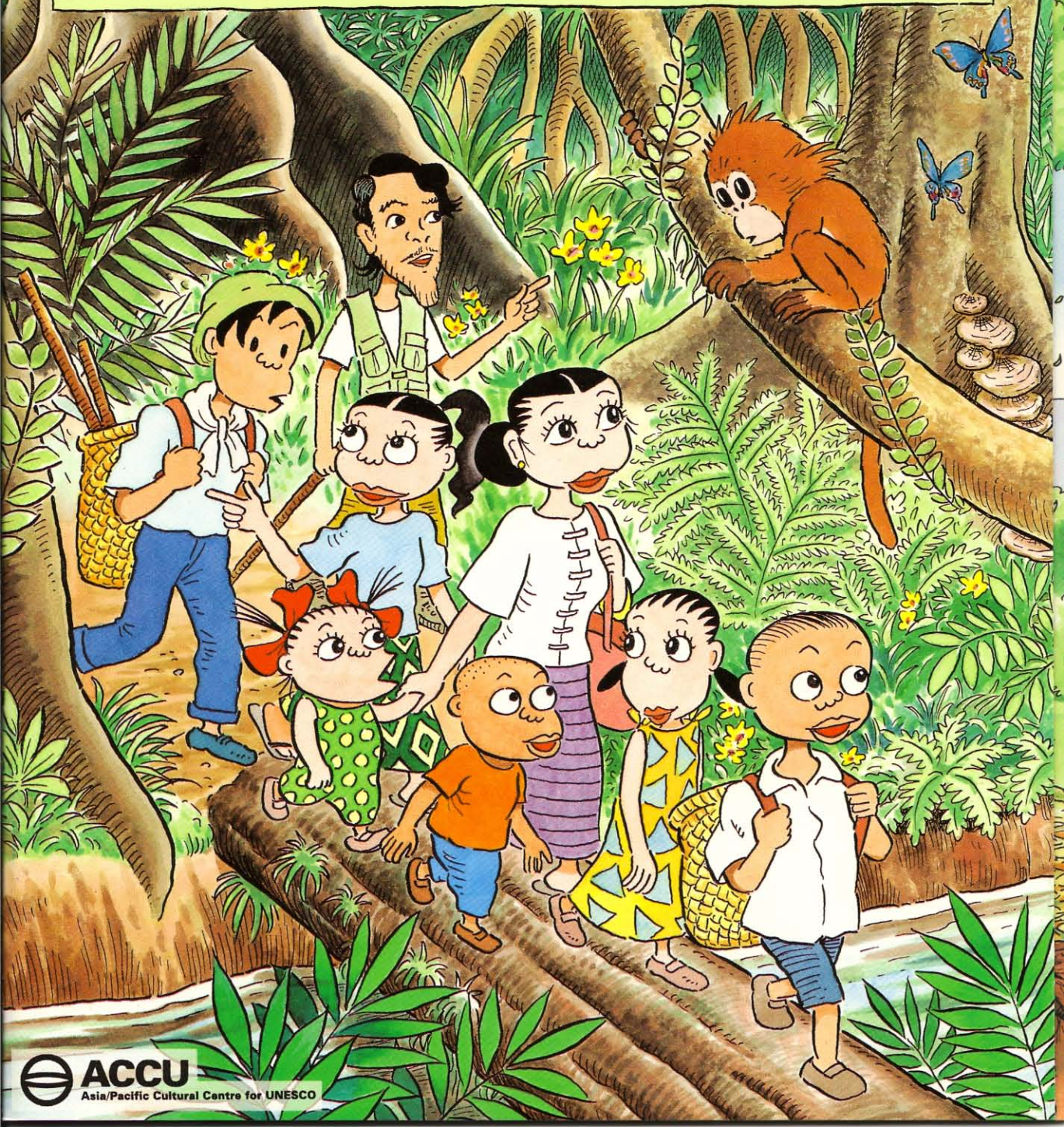


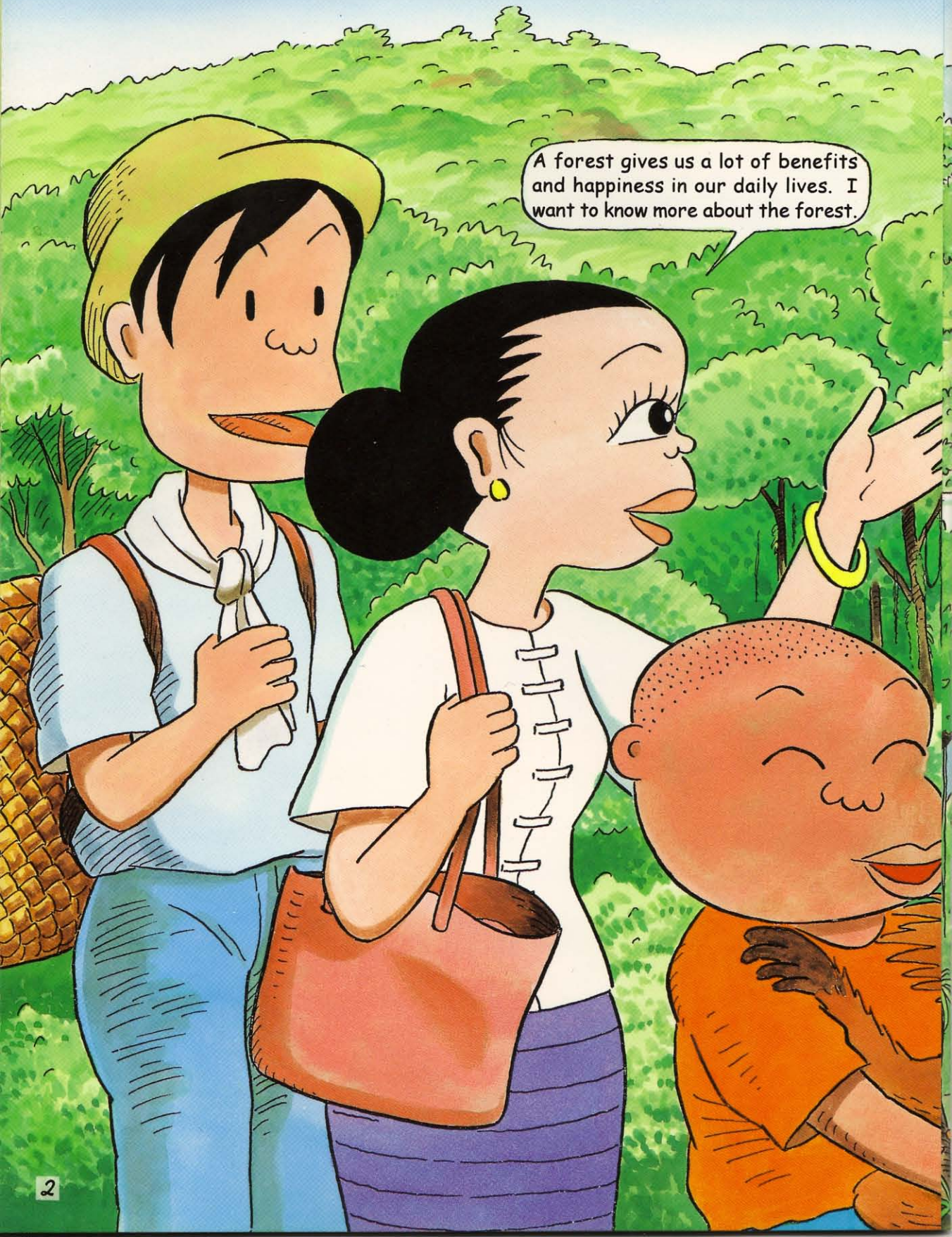
# OUR FORESTS, OUR LIFE



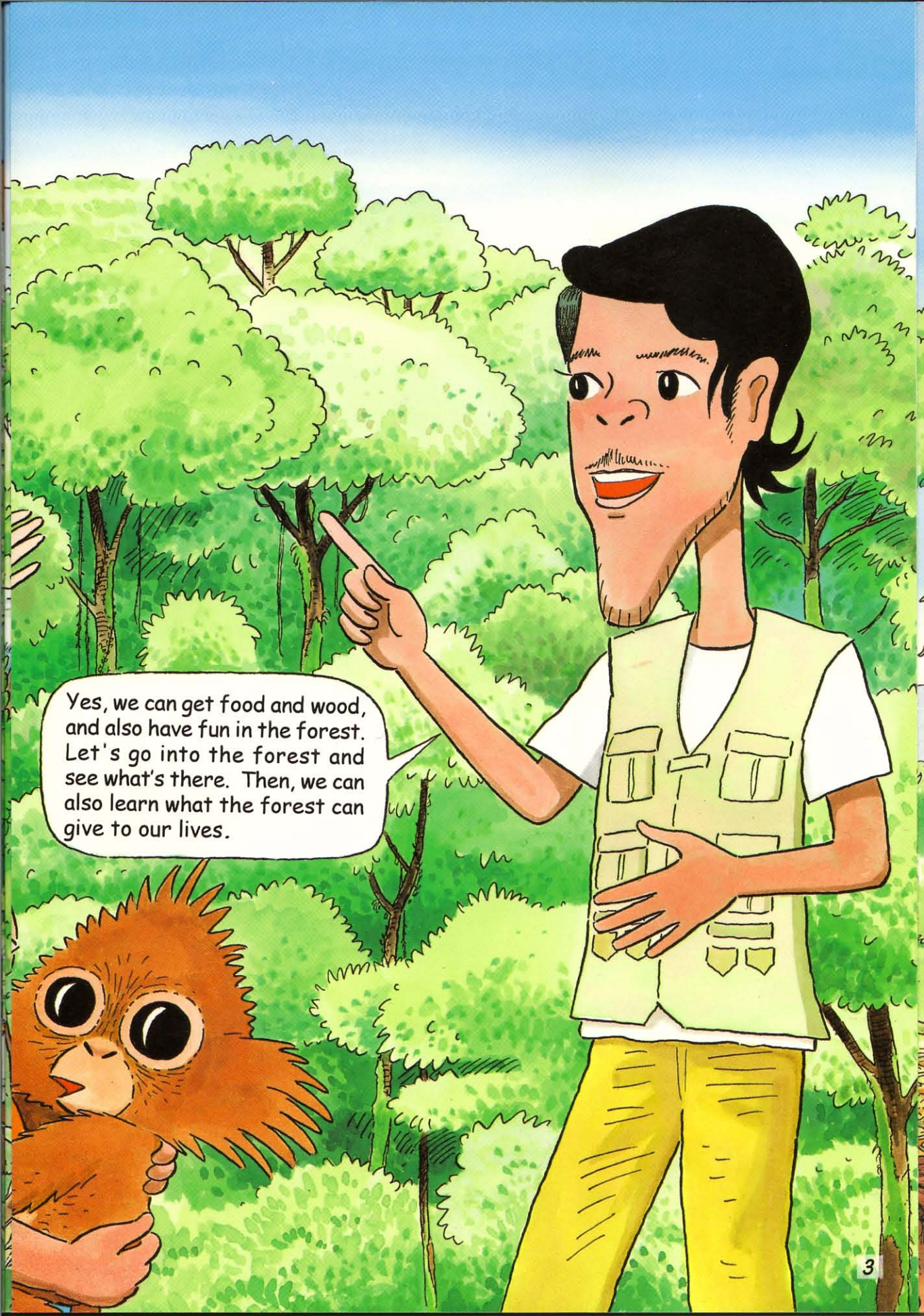


LET'S GO INTO A FOREST!

A forest gives us a lot of benefits and happiness in our daily lives. I want to know more about the forest.



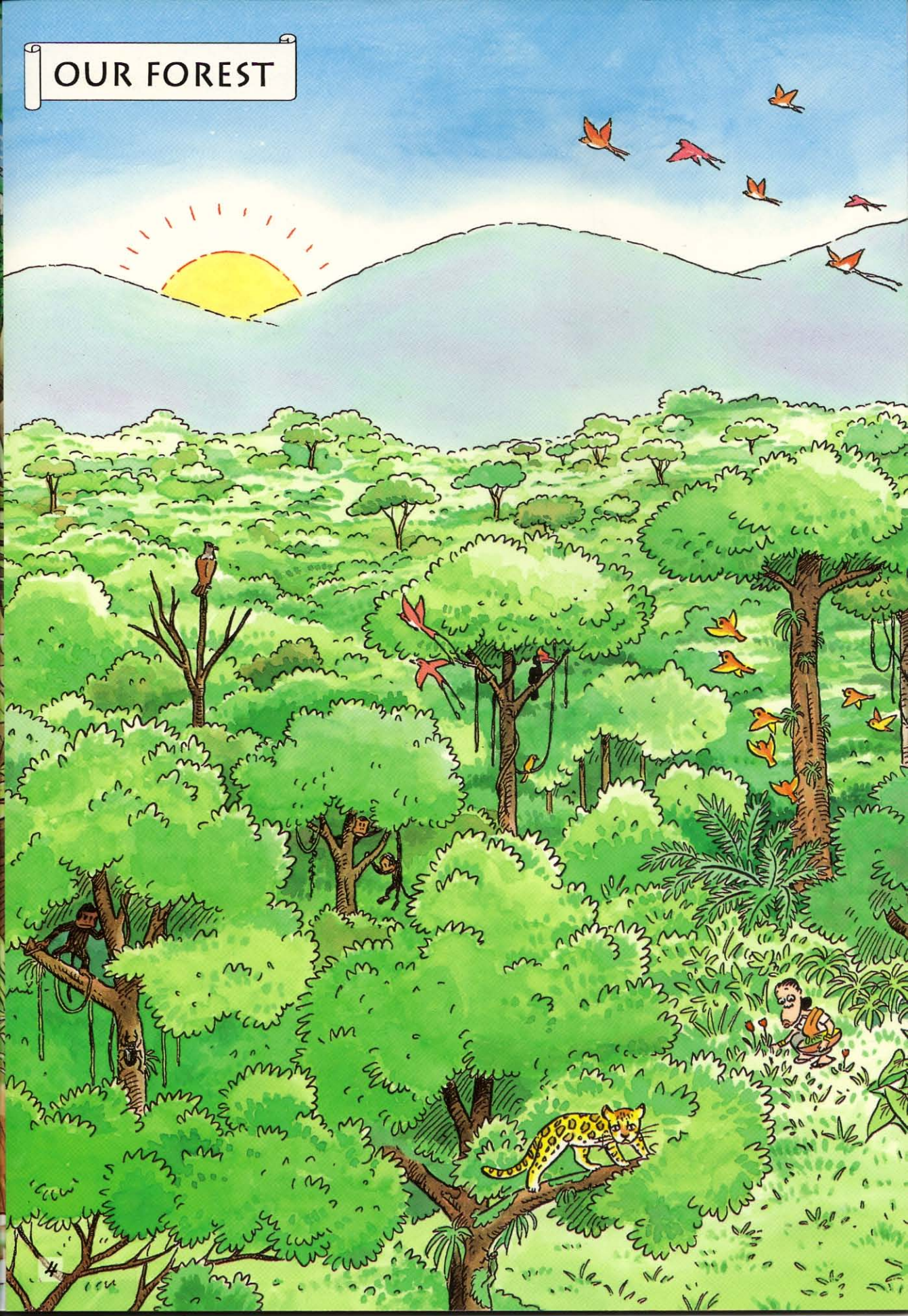


A cartoon illustration of a man with dark hair and a beard, wearing a white t-shirt and a light green vest with multiple pockets. He is pointing his right index finger towards a dense forest of green trees. In the bottom left corner, a small, fluffy brown owl with large eyes is visible, looking up at the man. The background is a bright blue sky with a few wispy clouds.

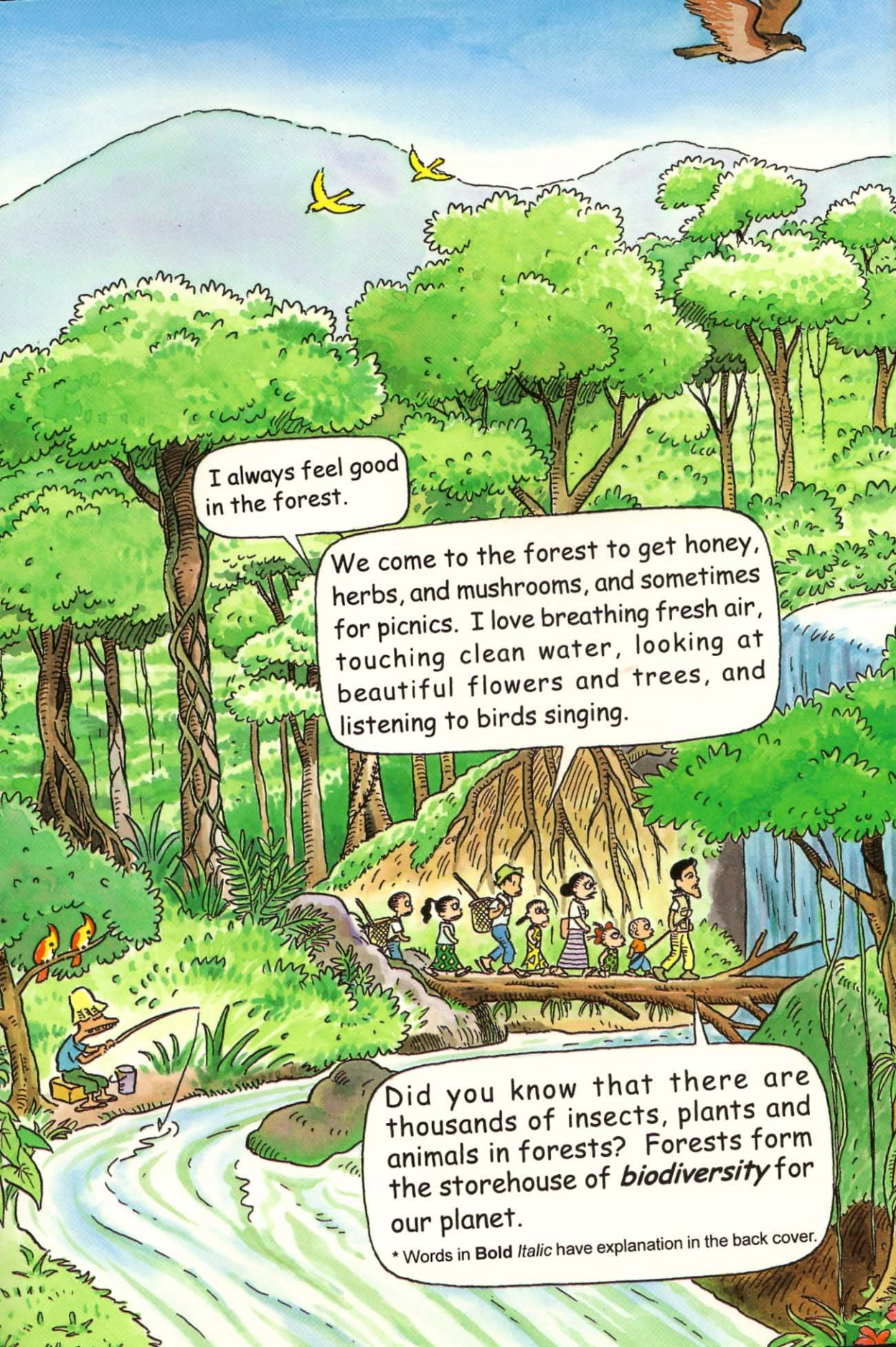
Yes, we can get food and wood,  
and also have fun in the forest.  
Let's go into the forest and  
see what's there. Then, we can  
also learn what the forest can  
give to our lives.



# OUR FOREST







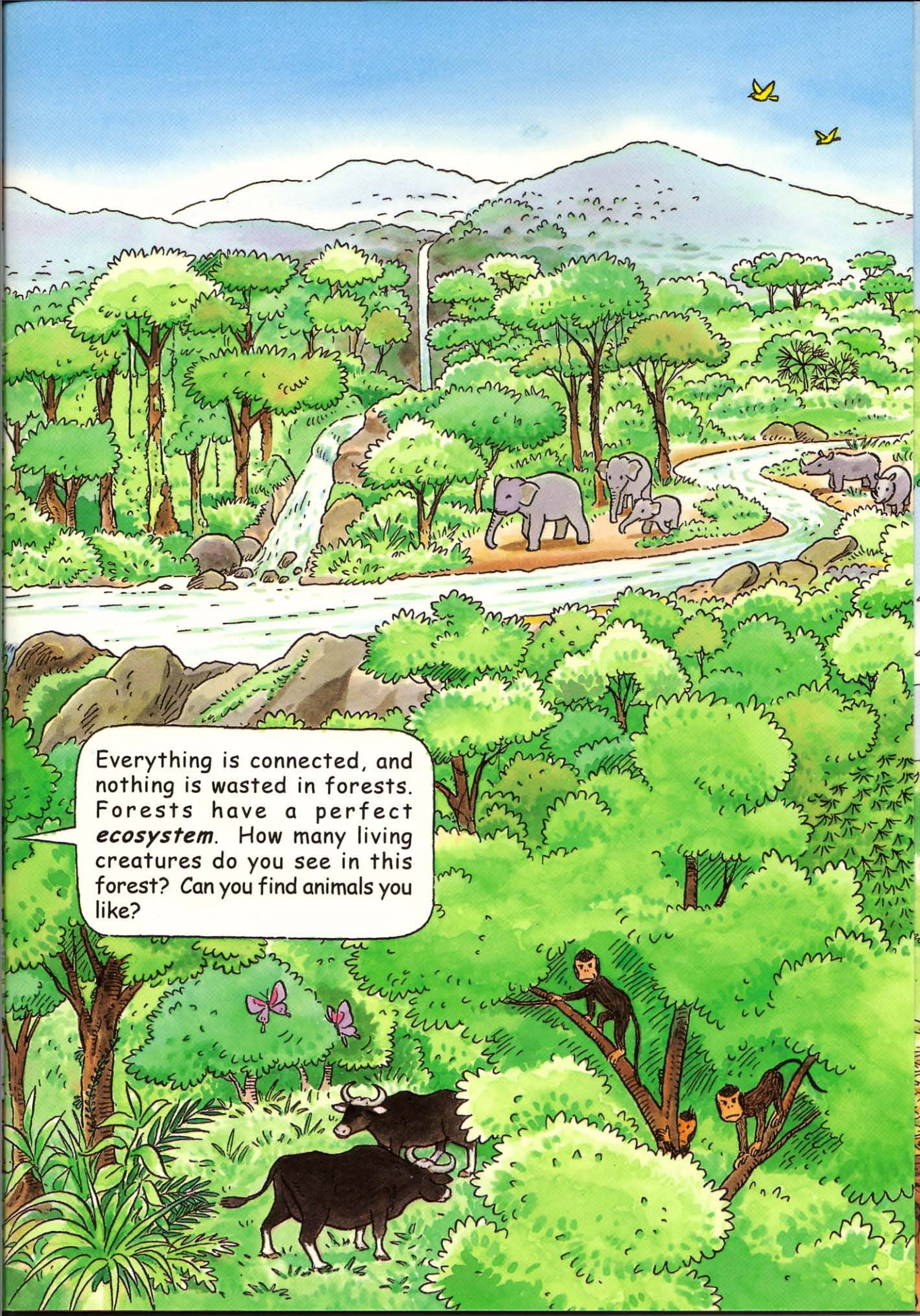
I always feel good  
in the forest.

We come to the forest to get honey,  
herbs, and mushrooms, and sometimes  
for picnics. I love breathing fresh air,  
touching clean water, looking at  
beautiful flowers and trees, and  
listening to birds singing.

Did you know that there are  
thousands of insects, plants and  
animals in forests? Forests form  
the storehouse of **biodiversity** for  
our planet.

\* Words in **Bold Italic** have explanation in the back cover.





Everything is connected, and nothing is wasted in forests. Forests have a perfect **ecosystem**. How many living creatures do you see in this forest? Can you find animals you like?



A **forest** is a growing, changing community made up of many different plants and animals that interact with each other in many ways. Other components of forests are **soil**, water and minerals found in the soil.





# WATER, AIR, AND ENERGY CYCLES IN A FOREST

I see a lot of living creatures in the forest. How can so many plants and animals live in the forest?

Transpiration

## WATER CYCLE

Do you know what all living creatures need every moment? One of the essential elements is **Oxygen**. It is produced by trees and plants. Air, sun light, water and rich soil are indispensable for them to grow. They are all here in the forest. I will show you some relationships among the water, air, soil, plants, and **nutrients** in the forest.

Rain

Evaporation

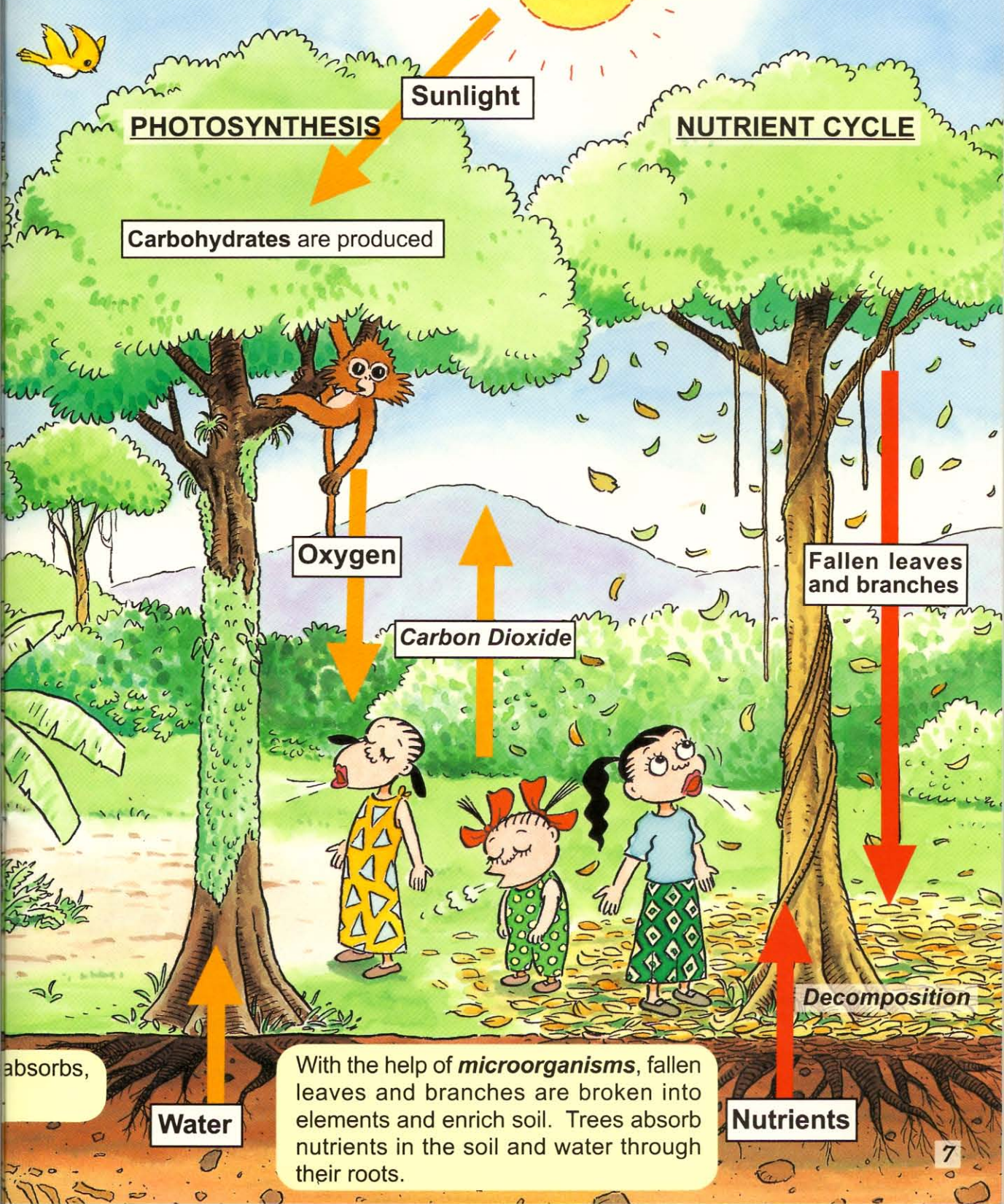
Water

Forest soil traps, and stores water



tion

**Photosynthesis** is a process by which plants make **carbohydrates** and oxygen using the light energy from the sun, carbon dioxide and water.



**PHOTOSYNTHESIS**

**Sunlight**

**Carbohydrates** are produced

**NUTRIENT CYCLE**

**Oxygen**

**Carbon Dioxide**

**Fallen leaves and branches**

**Decomposition**

**Water**

With the help of **microorganisms**, fallen leaves and branches are broken into elements and enrich soil. Trees absorb nutrients in the soil and water through their roots.

**Nutrients**



# INTERDEPENDENCY IN A FOREST

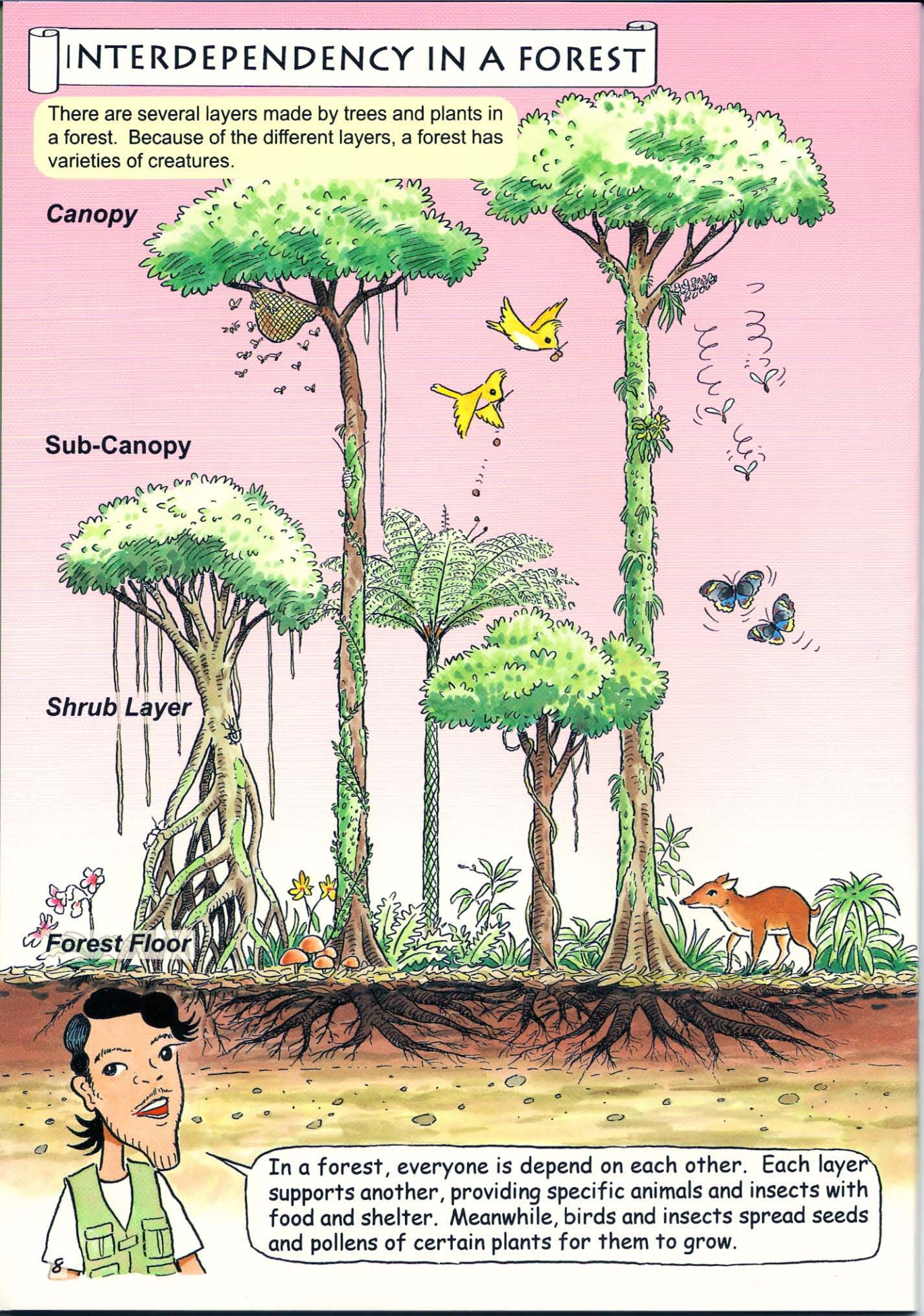
There are several layers made by trees and plants in a forest. Because of the different layers, a forest has varieties of creatures.

**Canopy**

**Sub-Canopy**

**Shrub Layer**

**Forest Floor**

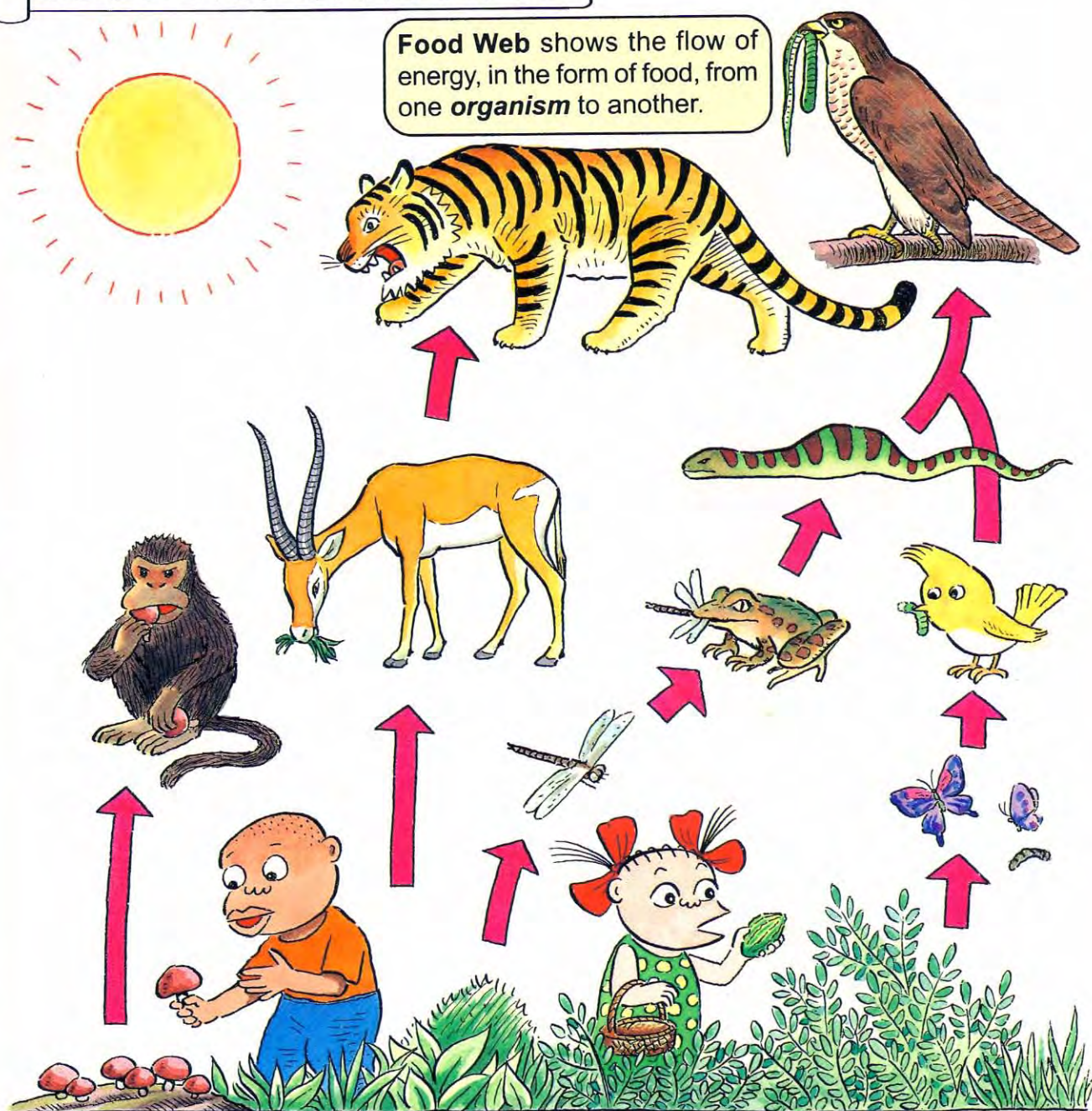


In a forest, everyone is depend on each other. Each layer supports another, providing specific animals and insects with food and shelter. Meanwhile, birds and insects spread seeds and pollens of certain plants for them to grow.



# FOOD WEB IN A FOREST

**Food Web** shows the flow of energy, in the form of food, from one **organism** to another.



Just like us, all animals and insects need food to live. Some eat other animals and insects, and others just eat plants. Plants are at the very bottom, and are called "**producers**," because they create food for people and other animals who are called "**consumers**." Can you imagine what will happen if any single species in the forest disappears? Well, all other creatures can be directly or indirectly affected.



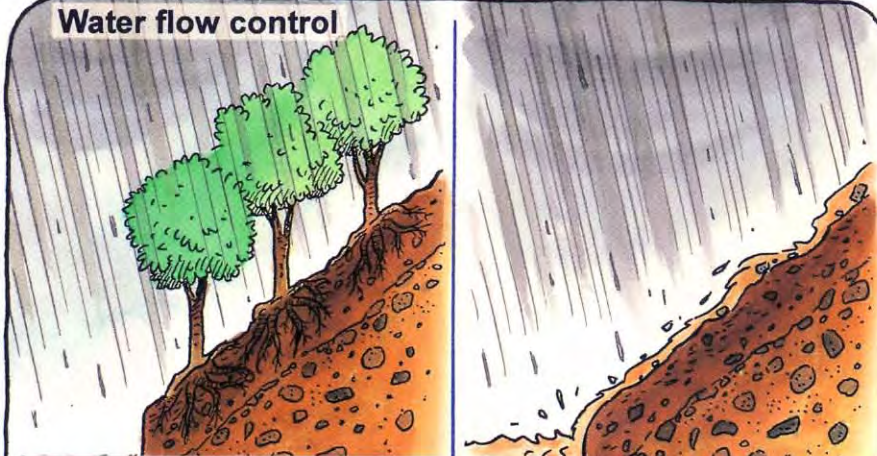


# FUNCTIONS OF A FOREST

We learned many interesting activities going on in a forest. Now, let's see what a forest can provide us, and other living creatures.



## Water flow control



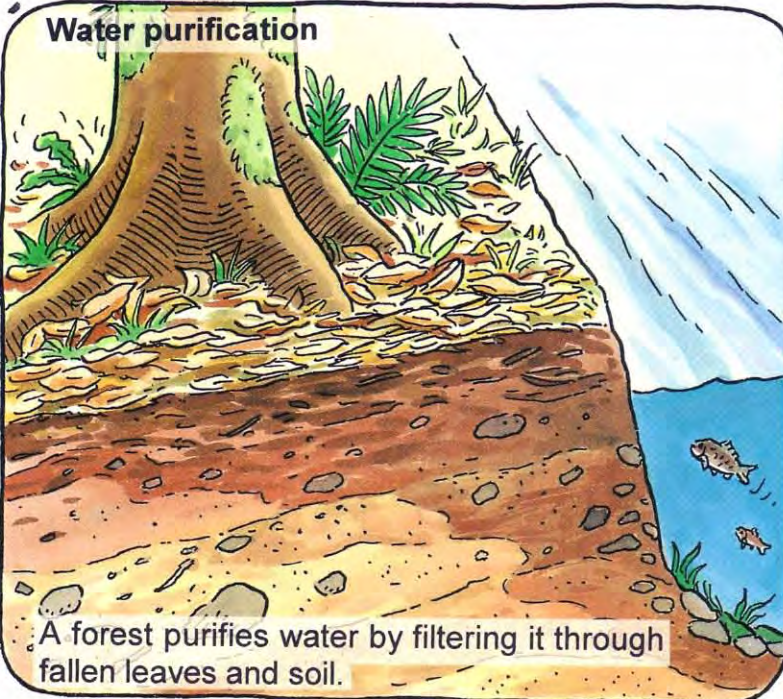
A forest helps regulate the flow of water. A forest is like a sponge, absorbing rain water and gradually releasing it into rivers.

## Soil protection and



A forest builds, protects and roots hold soil stable, keep away. Leaves, grass, and enrich the soil.

## Water purification



A forest purifies water by filtering it through fallen leaves and soil.

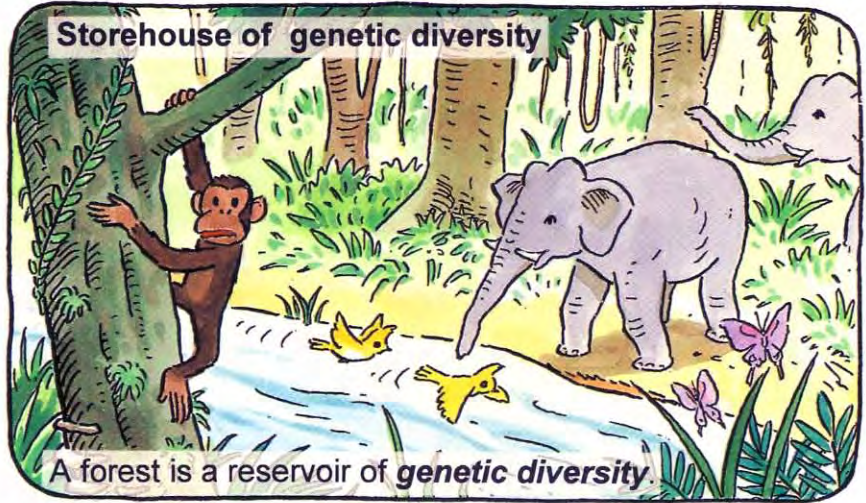
## Climate control



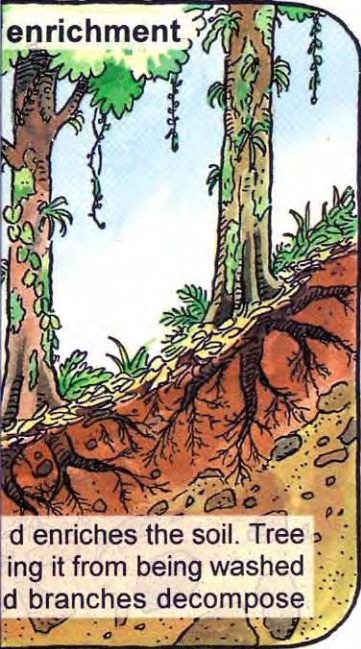
A forest controls of moisture with roots and allowed



### Storehouse of genetic diversity



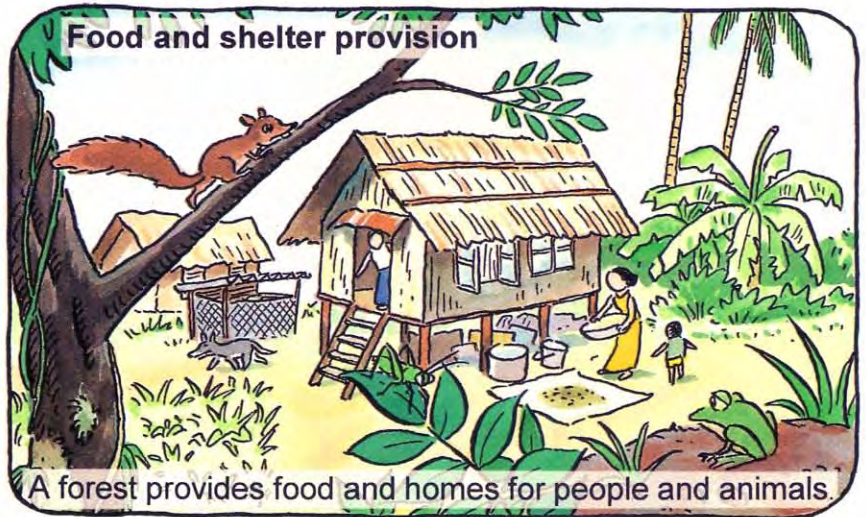
A forest is a reservoir of **genetic diversity**.



### enrichment

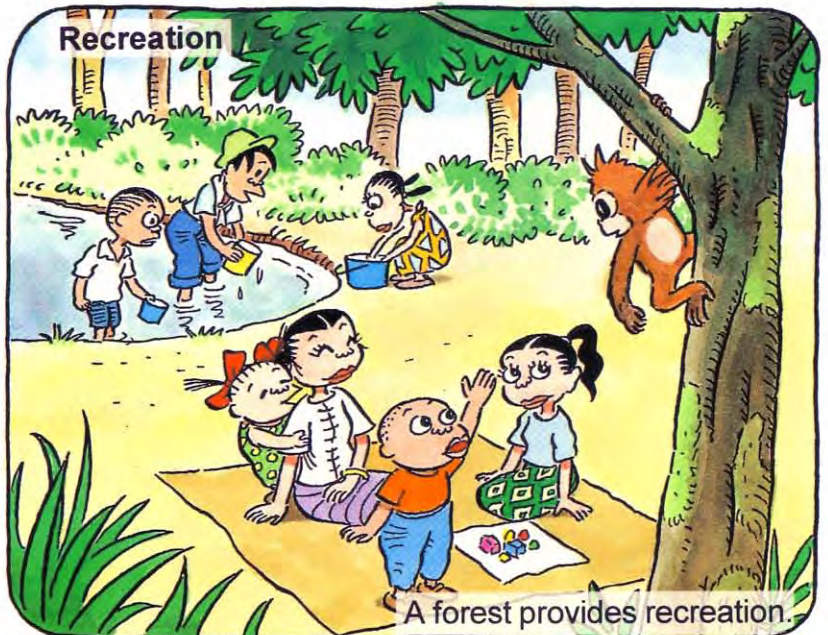
Tree roots and branches decompose and enrich the soil. Tree roots prevent soil from being washed away.

### Food and shelter provision



A forest provides food and homes for people and animals.

### Recreation



A forest provides recreation.



Trees help regulate the climate through the release of water vapor drawn from the soil by plants to evaporate through leaves.



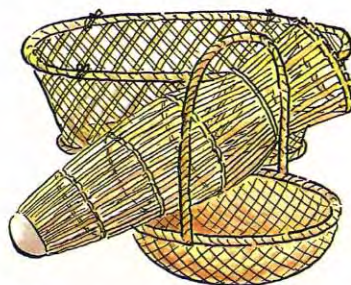
# WHAT A FOREST GIVES US



We can get a lot of gifts from a forest, which enrich our lives, including food, medicine and so forth. Some examples are...



Fruits and Vegetables



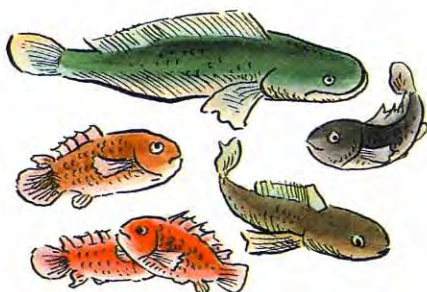
Materials for wood crafts



Herbs



Nuts



Fish



Mushrooms

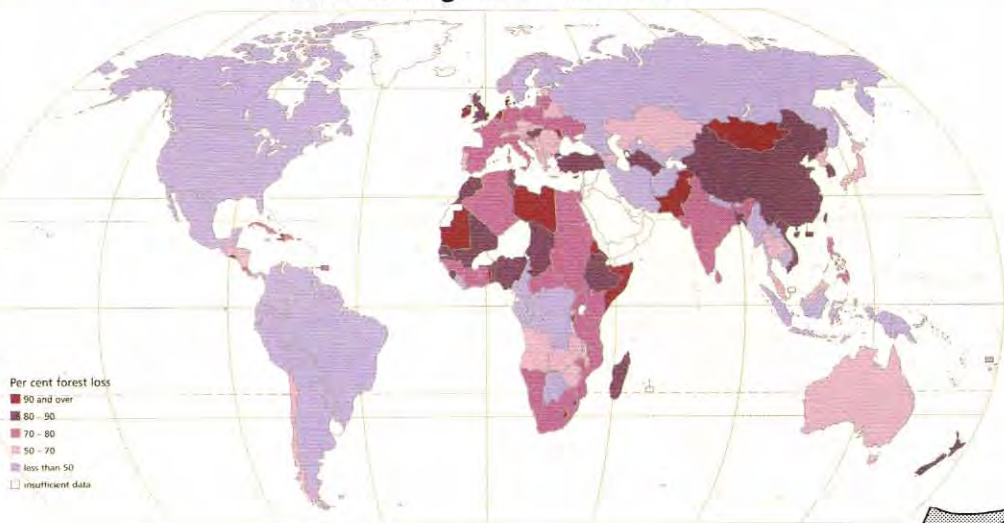


# SITUATION OF FORESTS DEPLETION

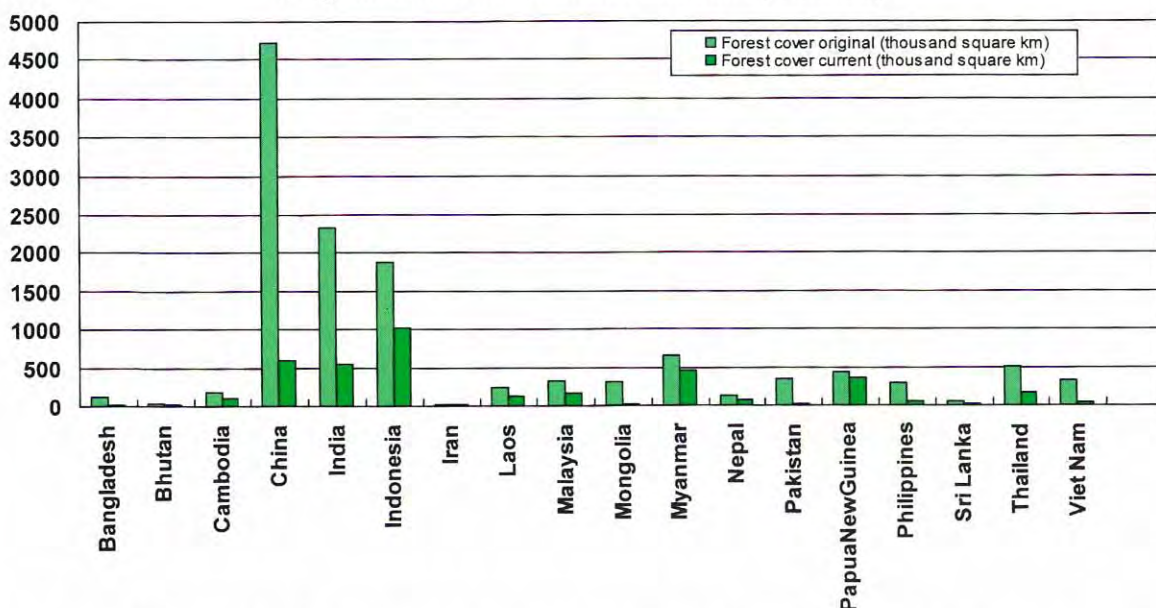


Now, let's see how much forests we have in the world. This is a world map of forests. A long time ago, about 80% of the Earth's surface was covered by forests. However, now mainly due to human activities, forest area has been reduced to 36% of the Earth's surface and is still shrinking every year.

Loss of Original Forest Cover



Original and Current Forest Cover by Country



(Original forest cover: potential cover assuming current climate conditions and no human interference.)

Source: WWF, Living Planet Report, 1999

FAO, State of the World's Forest 1997 13

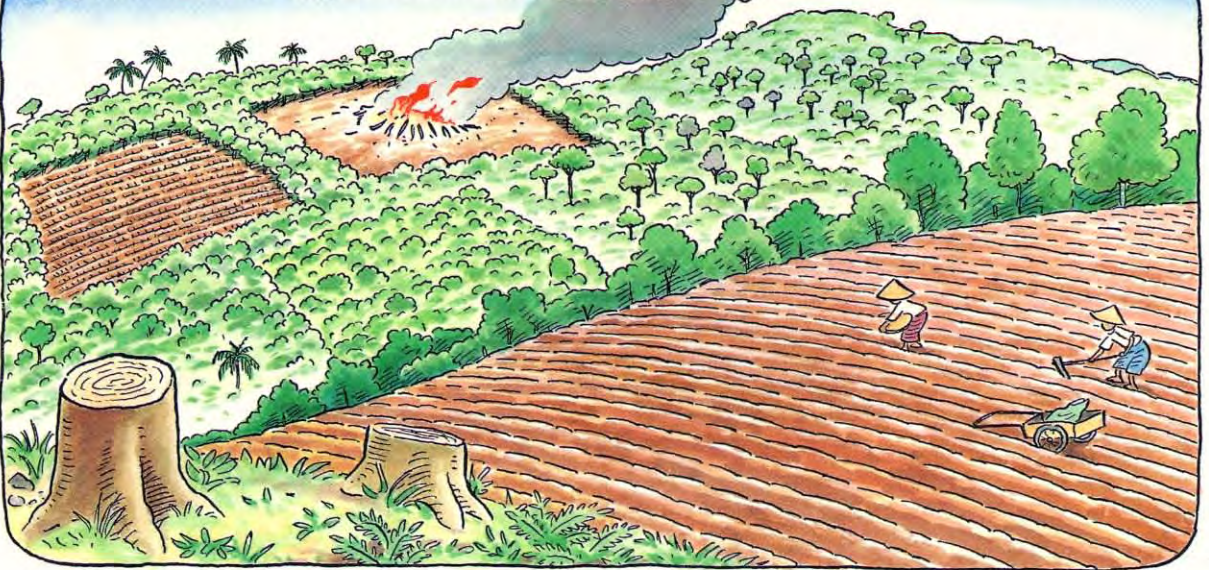


# FORESTS ARE DISAPPEARING

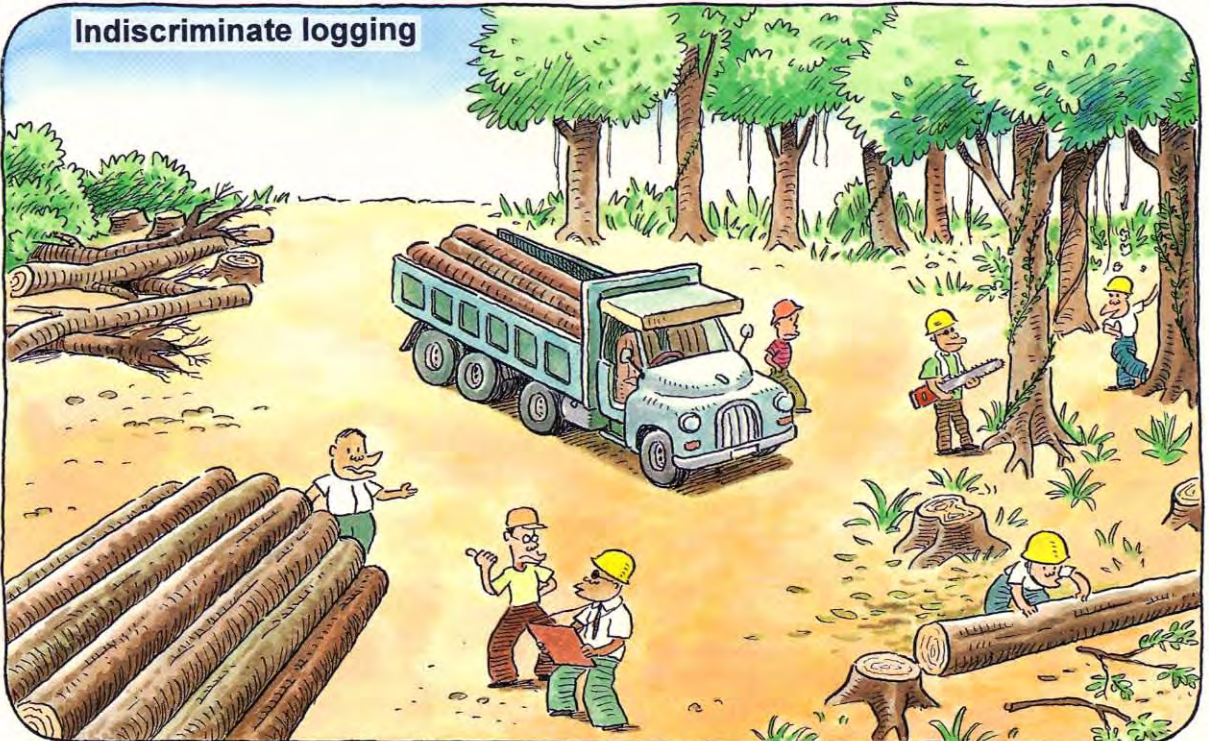
We now know that forests are essential for our daily lives. However, in recent years, people have cleared the forests to great extent, for convenience or profit. Some reasons for the depletion of forest areas are...



## Conversion into agricultural land on a large scale

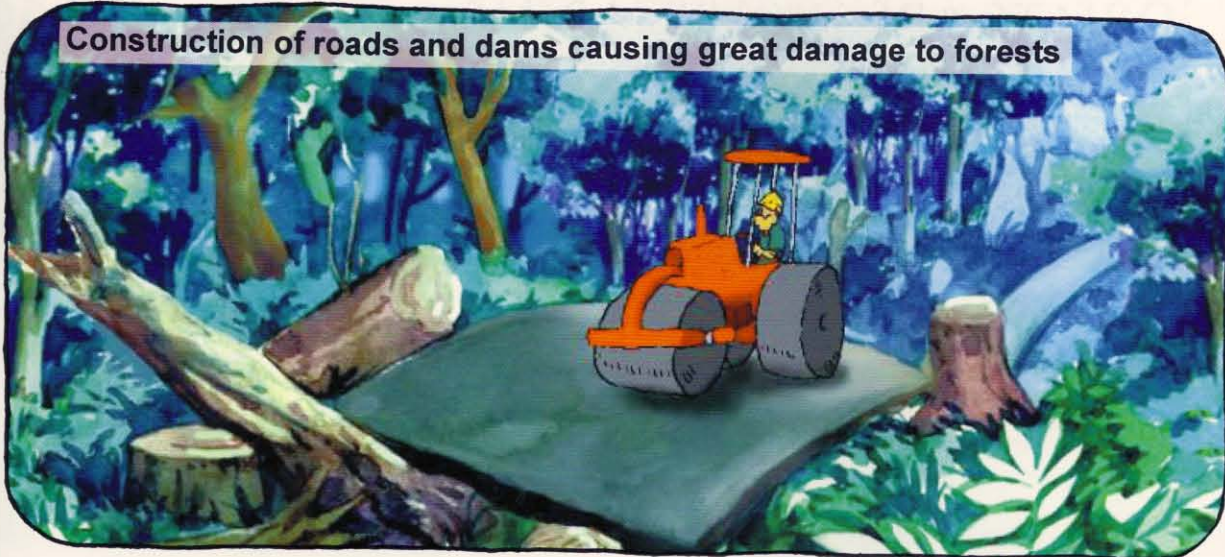


## Indiscriminate logging





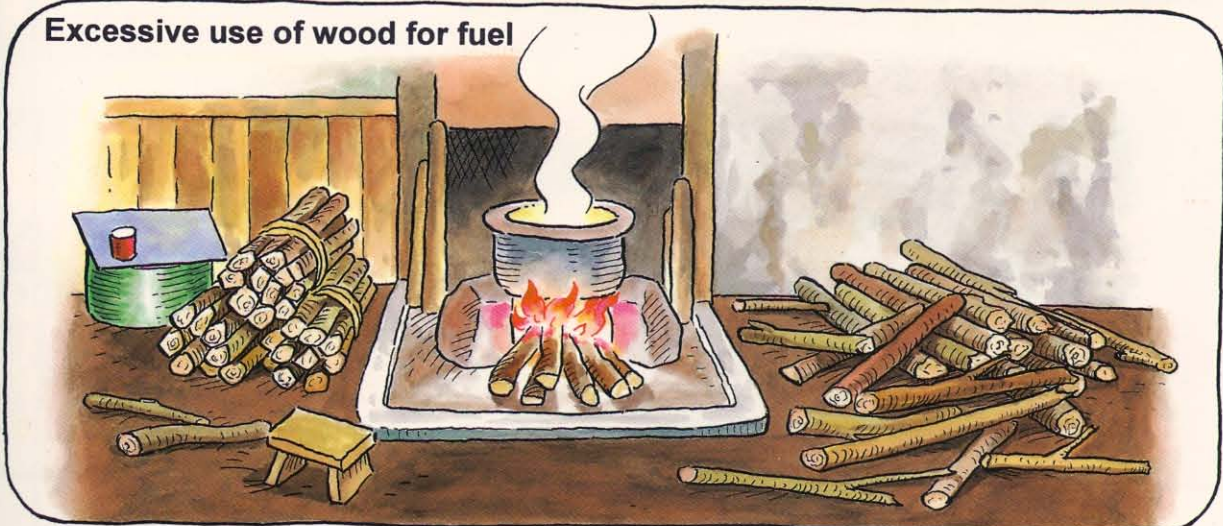
Construction of roads and dams causing great damage to forests



Large-scale mining



Excessive use of wood for fuel





# WHAT WILL HAPPEN WHEN FORESTS ARE GONE

As a result of *deforestation*, we will face...

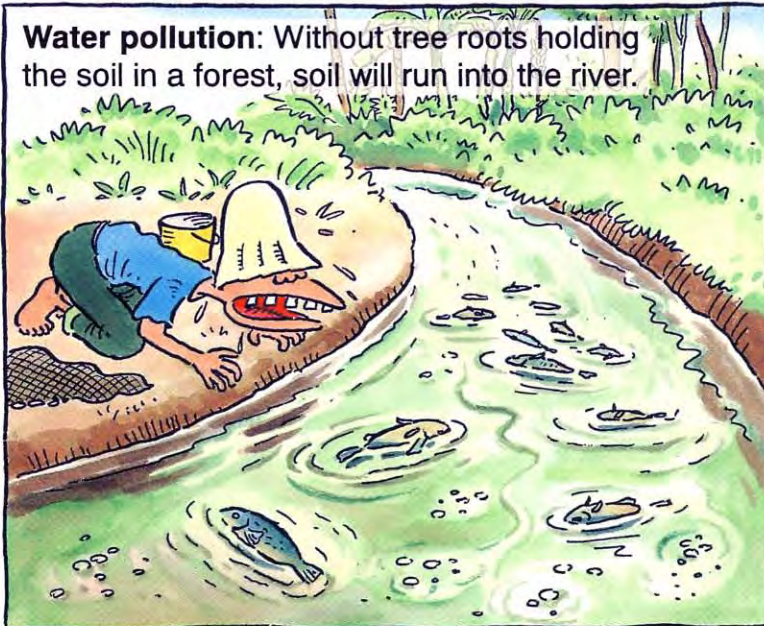
**Soil erosion:** Trees in a forest hold soil with their roots. If trees are gone, soil will be washed away.



**Land slides:** Without trees, land will be very unstable and easily slide down slope.



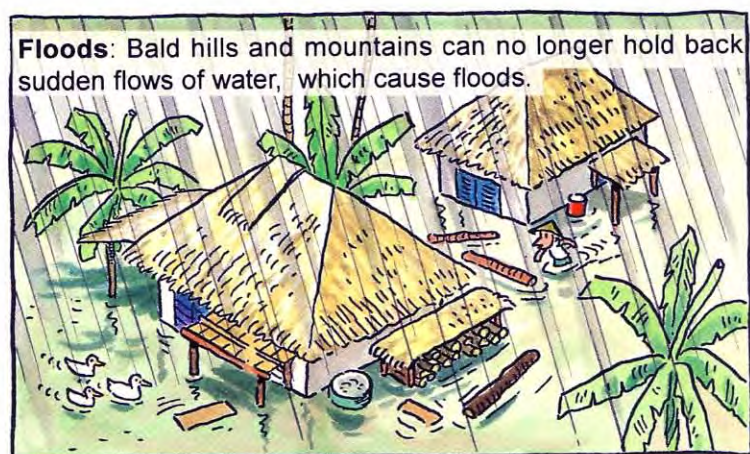
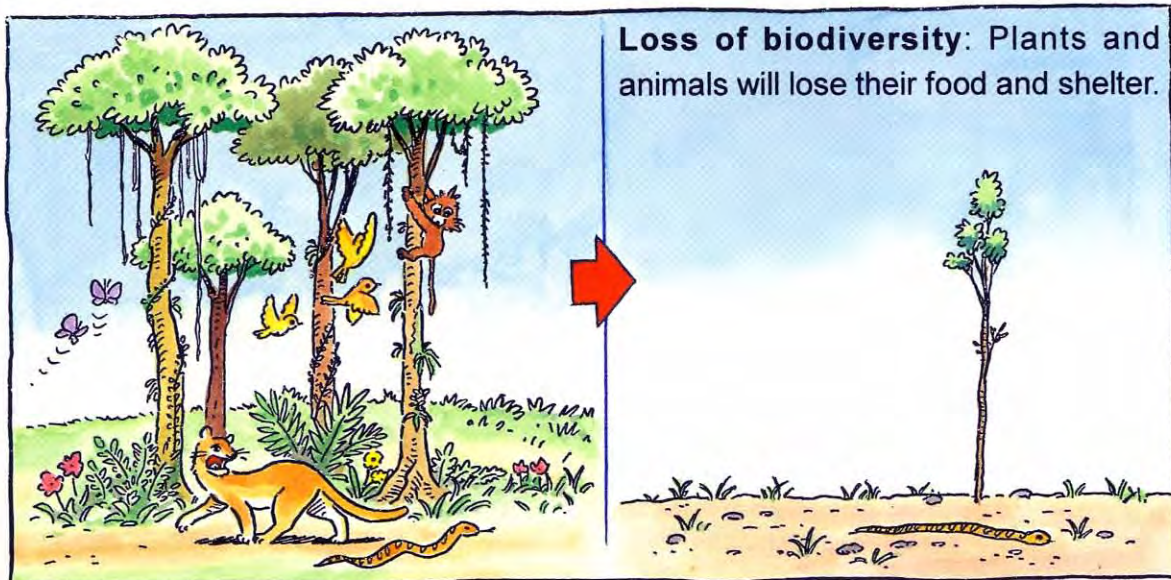
**Water pollution:** Without tree roots holding the soil in a forest, soil will run into the river.



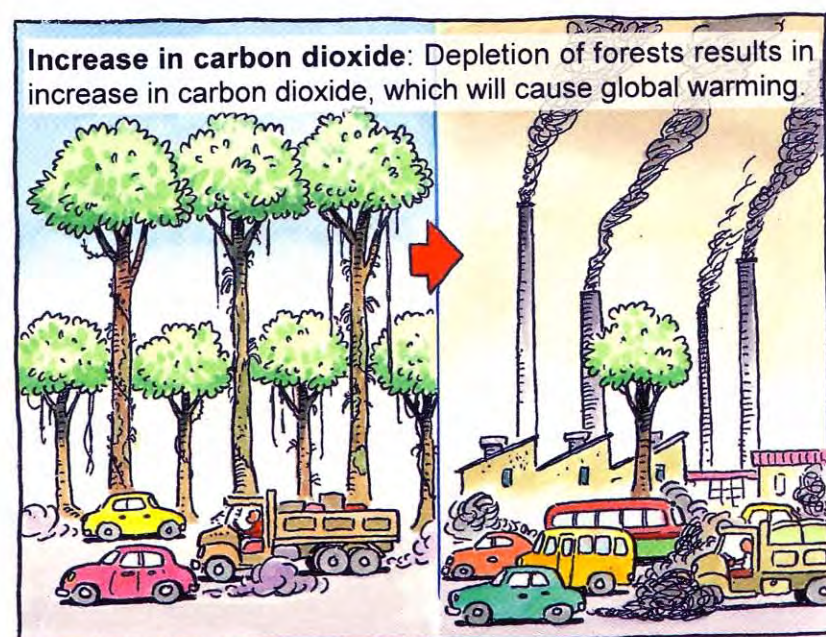
**Temperature increase**







Deforestation damages our lives and environment. What can we do to preserve our forests?



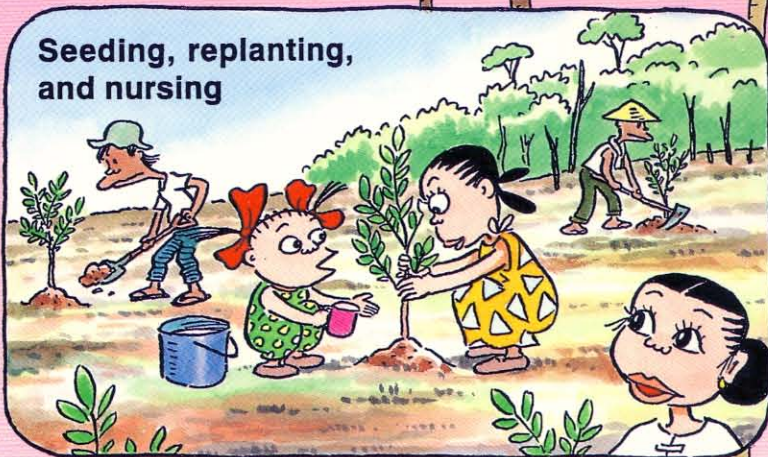


# WHAT CAN WE DO TO KEEP OUR FORESTS

## Avoid excessive logging

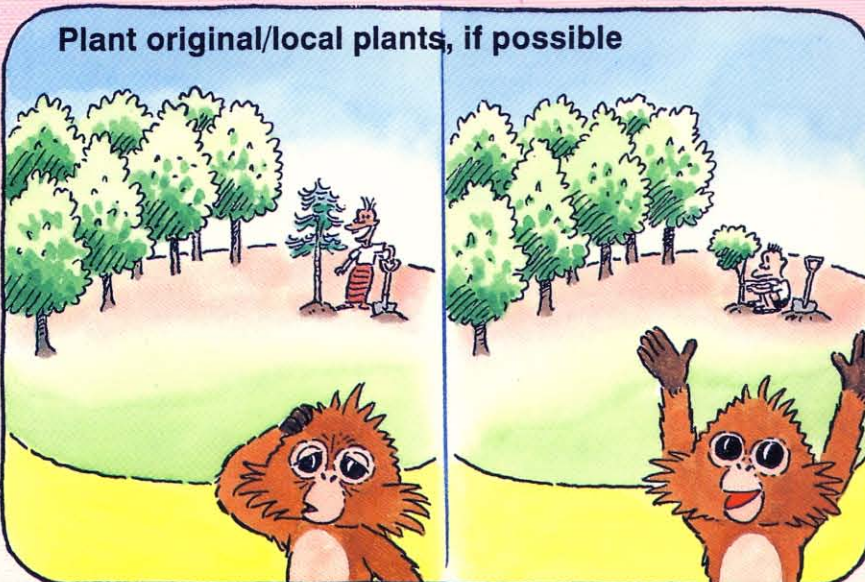


## Seeding, replanting, and nursing



If the forest disappears, all my friends will have nowhere to live. Moreover, once the forest is gone, it is very difficult to grow back. Before it is all gone, we have to take quick action. Let's keep in mind the following to save our forest.

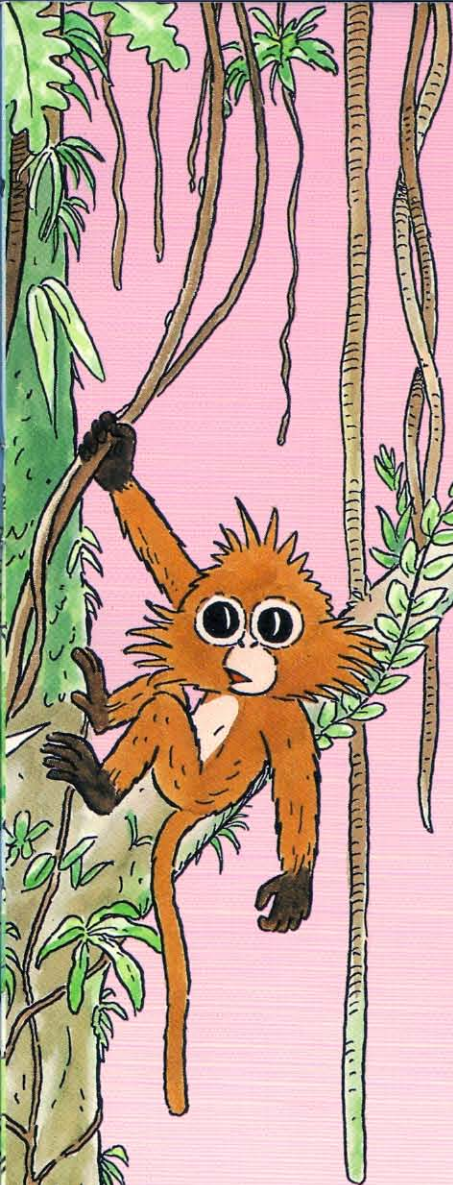
## Plant original/local plants, if possible



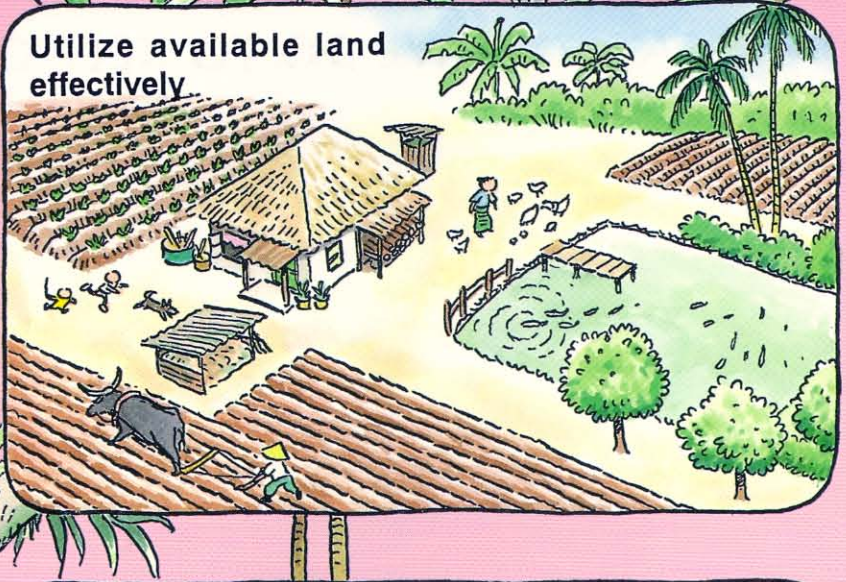
## Promote community forest



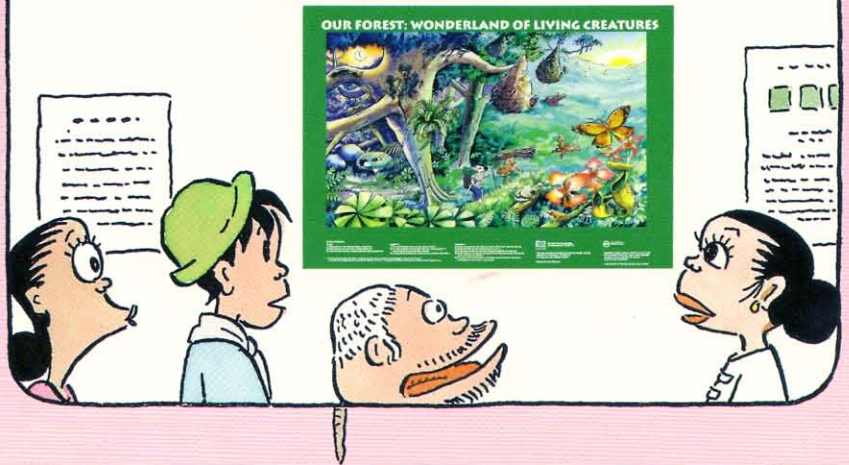




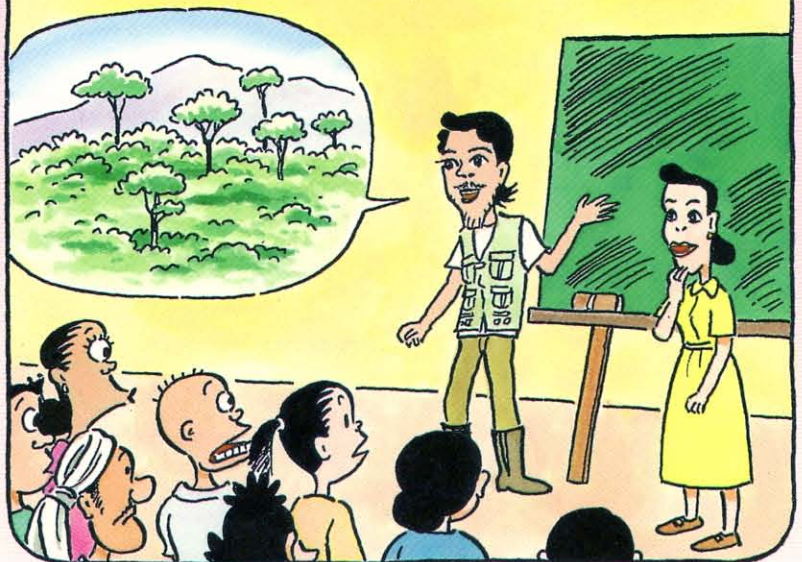
### Utilize available land effectively



### Generate public awareness



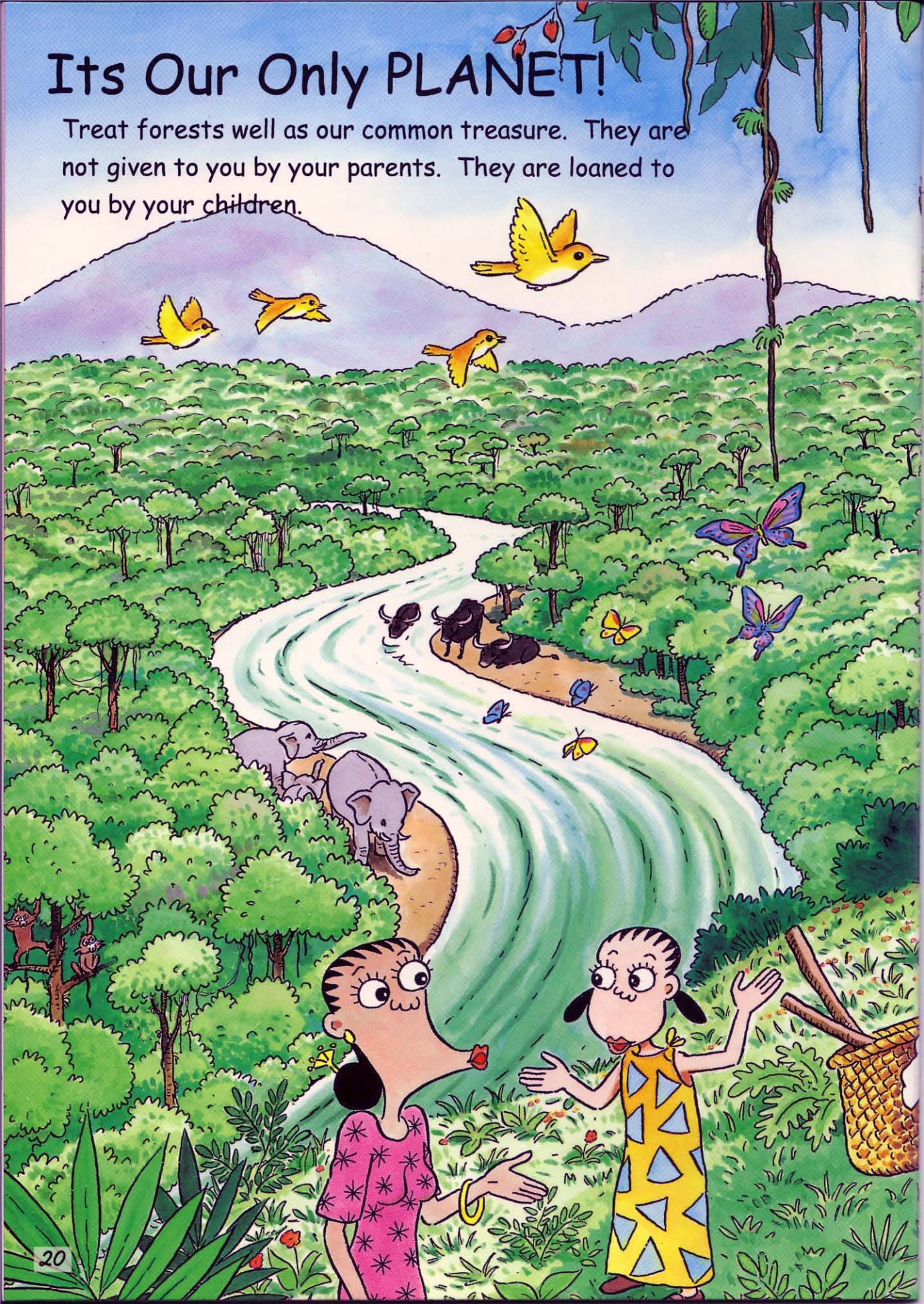
### Learn more about our forest



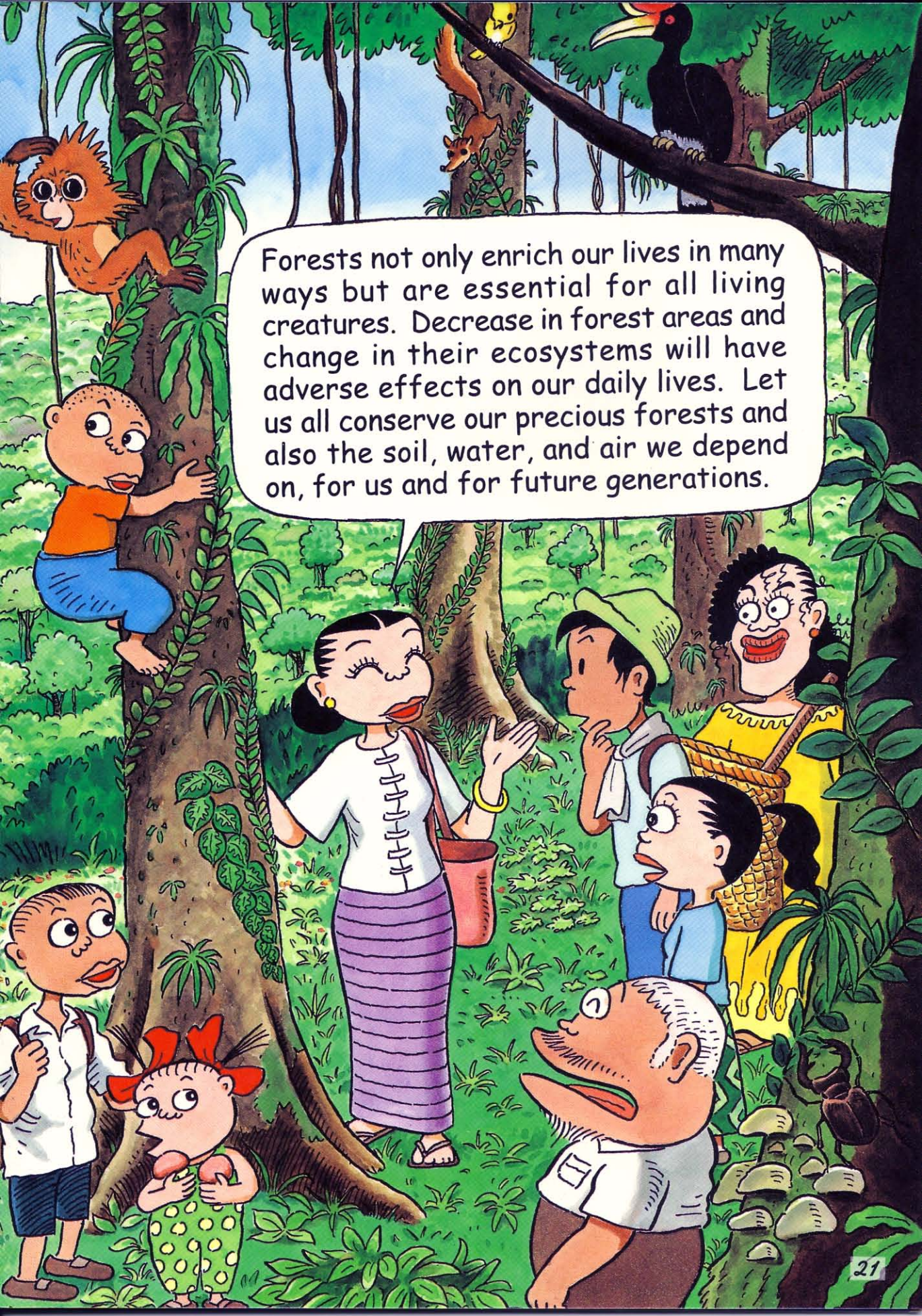


# Its Our Only PLANET!

Treat forests well as our common treasure. They are not given to you by your parents. They are loaned to you by your children.







Forests not only enrich our lives in many ways but are essential for all living creatures. Decrease in forest areas and change in their ecosystems will have adverse effects on our daily lives. Let us all conserve our precious forests and also the soil, water, and air we depend on, for us and for future generations.



## Glossary -Key Words in the Booklet-

**Biodiversity:** A measure of the variety of life found in an area. It is a product of the number of species and the genetic variability within individual species.

**Canopy:** The uppermost layer in forests where branches spread out so that leaves can capture light.

**Carbon dioxide:** Gas occurring naturally in the atmosphere, used by producers in photosynthesis and made during respiration.

**Carbohydrates:** Any of a large group of energy-producing organic compounds containing carbon, hydrogen, and oxygen, such as starch, glucose, and other sugars.

**Community forest:** Forest managed by neighborhood villages for the well-being of the villagers and the forest.

**Consumers:** Animals, including humans, that eat plants and animals as food sources.

**Decomposition:** A process of breaking down a substance into basic elements.

**Deforestation:** Clearing of forests or trees.

**Ecosystem:** A community of organisms that interact with one another and the surrounding physical and chemical environment.

**Erosion:** The wearing away of the earth's surface by the action of water, wind, etc.

**Evaporation:** Process by which water turns from liquid to vapor.

**Forest floor:** Bottom layer of the forest on the ground occupied by grasses and insects. It is here that dead plants and animals are decomposed by microorganisms enriching the soil.

**Genetic diversity:** Variety within one species. Higher genetic diversity is better for the survival of a species.

**Microorganism:** Very small creatures such as bacteria and fungi.

**Nutrient:** Any substance that provides essential nourishment for the maintenance of life.

**Organism:** An individual live plant or animal.

**Oxygen:** Gas occurring naturally in air and water used by plants and animals in respiration and produced by plants during photosynthesis.

**Producers:** Organisms, such as green plants, that make their food using raw materials from the air and soil.

**Seedling:** A young plant, especially one raised from seed and not from a cutting.

**Shrub layer:** Near the ground, the layer where smaller woody plants occupy the space between the large trees that reach up to the canopy.

**Soil:** The upper layer of earth in which plants grow, contains various minerals and nutrients.

**Transpiration:** The loss of water vapors from plants through leaf pores (a tiny hole in the surface through which gases and liquid may pass.)

### Guide for Utilization

\* There are two ways to utilize this booklet. The first is to use it as a part of the Package Learning Materials on Environment 2 (PLANET 2). To use as a package, please refer to the guide for utilization of PLANET 2. The other is to use it individually. The guide for utilization is as follows.

- Target:**
- (1) Adult learners in non-formal education programmes
  - (2) School-going and out-of-school children (grade 4-8)
  - (3) Those who are involved in environmental education programmes

#### Objective:

- (1) To raise awareness of the importance of forests for all living creatures, for present and future generations.
- (2) To generate a sense that humans should live in harmony with nature.
- (3) To provide simple information on forest conservation and reforestation (present situation, causes, effects, and possible solutions).
- (4) To promote the idea that people have to conserve forests and to promote positive attitudes towards forest conservation.
- (5) To encourage learners to take action for forests conservation.
- (6) To enhance reading skills of the learners.

#### Application:

- (1) Before distributing the booklet, discuss informally what learners know about forests, and the relationship between the forest and learners' daily lives.
- (2) Distribute this booklet to learners and ask them to read through it.
- (3) Start the discussion about the forest near their village and see if the forest is properly treated.
- (4) Discuss the benefits of forests and effects of deforestation.
- (5) Then, discuss possible actions learners can take in order to conserve forests.
- (6) The instructor may take learners to a nearby forest to review the lessons in the booklet referring to the real forest.

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Asia-Pacific Literacy Data Base: <http://www.accu.or.jp/litdbase>

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